

CLAIM AMENDMENTS

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of the Claims:

1 1. (Currently Amended) In a communication network provided with a Network
2 Management System (NMS) maintaining a network topology map and one or more
3 Element Management Systems (EMS) that manage a plurality of network entities,
4 each EMS maintaining a respective EMS topology map, a method of synchronizing
5 said network topology map with a respective EMS topology map, comprising the
6 following steps:

7 receiving, at said NMS, a user request for a hierarchy altering operation, said
8 user request comprising topology change data for at least one of said network
9 entities;

10 verifying validity of said user request with respect to each EMS against a set
11 of rules and limitations associated with said respective EMS, and, after said user
12 request has been validated:

13 altering said network topology map according to said topology change data in
14 said user request;

15 automatically sending, from said NMS to said EMS, a change request
16 comprising said topology change data; ~~and~~

17 updating said EMS topology map according to said change request;

18 automatically propagating said topological change data from said EMS to
19 said NMS; and
20 preventing an administrator from making any topological changes to an
21 added network entity.

1 2. (Previously Presented) The method of claim 1, further comprising the step of
2 sending an acknowledgement from said EMS to said NMS to inform said
3 NMS that said EMS topology map has been updated.

1 3. (Currently Amended) The method of claim 1, wherein said topology change
2 data refers to at least one of adding, upgrading, moving, removing, and renaming-a
3 ~~network entity~~ at least one of said network entities.

1 4. (Previously Presented) The method of claim 3, wherein said network entity is
2 selected from the group consisting of a node group, a network node, and a network
3 element.

1 5. (Previously Presented) The method of claim 1, further comprising the step of
2 providing an error message whenever said user request is invalid.

1 6. (Original) The method of claim 1, wherein said step of verifying validity of
2 said request comprises checking the syntax and the completeness of said user
3 request.

1 7. (Previously Presented) The method of claim 1, wherein said step of verifying
2 comprises checking location identification data in said user request.

1 8. (Currently Amended) The method of claim 7, wherein said location
2 identification data provide the hierarchical location of ~~a network entity~~ at least one
3 of said network entities to which said topology change data are applied.

1 9. (Original) The method of claim 5, wherein said error message specifies that
2 said user request includes invalid characters.

1 10. (Original) The method of claim 5, wherein said error message specifies that
2 said user request includes incorrect location identification data.

1 11. (Currently Amended) The method of claim 10, wherein said incorrect location
2 identification data comprise at least one of an incorrect network entity name, an

3 incorrect specification of at least one of said network entities, and a missing name
4 ~~for a network entity~~ at least one of said network entities.

1 12. (Previously Presented) The method of claim 1, further comprising the step of
2 identifying at said NMS which EMS is affected by said user request, for
3 selectively sending said change request to said affected EMS managing one or more
4 affected network elements.

1 13. (Previously Presented) The method of claim 1, further comprising the steps
2 of:
3 cyclically checking the state of said EMS,
4 storing said change request whenever said EMS is temporarily in an `off
5 state`, and
6 providing said change request to said EMS when said EMS is back in an `on
7 state`.
8

1 14. (Currently Amended) In a communication network provided with a Network
2 Management System (NMS) maintaining a network topology map and one or more
3 Element Management Systems (EMS) that manage a plurality of network entities,

4 each maintaining a respective EMS topology map, a method of synchronizing said
5 network topology map with an EMS topology map, comprising the following steps:

6 receiving, at said EMS, a user request for a hierarchy altering operation, said
7 user request comprising topology change data pertinent to ~~a network entity~~ at least
8 one of said network entities;

9 automatically sending, from said EMS to said NMS, a change request
10 comprising topology change data for at least one of said network entities;

11 at said NMS, verifying validity of said user request with respect to each EMS
12 against a set of rules and limitations associated with said respective EMS; ~~and~~

13 after said user request has been validated, altering said network topology
14 map according to said topology change data in said user request;

15 automatically propagating topological changes from said EMS to said NMS,

16 and

17 preventing an administrator from making any topological changes to an
18 added network entity.

1 15. (Original) The method of claim 14, wherein said EMS disables any
2 subsequent user requests involving said topology change data from said EMS, for
3 enabling user request pertinent to said network entity from one localized place.

1 16. (Currently Amended) A Network Management System (NMS) for a
2 communication network having a plurality of Element Management Systems (EMS)
3 that manage a plurality of network entities, comprising:

4 a network topology map comprising all of said network entities in said
5 communication network and hierarchical information on locations of said network
6 entities;

7 a user interface for enabling said NMS to receive a user request comprising
8 topology change data pertaining to a specified network entity;

9 means for verifying validity of said user request relative to each EMS against
10 a set of rules and limitations associated with said respective EMS;

11 means for changing said network topology map according to said topology
12 change data after said user request has been validated; ~~and~~

13 means for generating from said user request a change request comprising
14 said topology change data and automatically sending said change request to an
15 Element Management System (EMS) affected by said user request;

16 automatically propagating said topological change data from said EMS to
17 said NMS; and

18 preventing an administrator from making any topological changes to an
19 added network entity.

1 17. (Previously Presented) The NMS of claim 16, wherein said hierarchical
2 information on location of said network entities provides a location of a network
3 element in at least one of the entire network, in a node group, and a network node.

1 18. (Previously Presented) The NMS of claim 16, wherein said network topology
2 map is stored in a NMS database.

1 19. (Original) The NMS of claim 16, further comprising
2 means for identifying said EMS affected by said user request.

1 20. (Canceled)

1 21. (Original) The NMS of claim 16, wherein said means for verifying comprises
2 a list of syntax errors, invalid characters, and empty node group names.

1 22. (Currently Amended) In a communication network provided with a Network
2 Management System (NMS) maintaining a network topology map with all network
3 entities in said communication network and with hierarchical information on
4 locations of said network entities, ~~an~~ at least one Element Management Systems

5 | System (EMS), each said EMS managing a plurality of network entities and being

6 | monitored and controlled by said NMS, comprising:

7 | an EMS topology map including a subset of said network entities and
8 | hierarchical information on location of said network entities in said subset;

9 | means for receiving, from said NMS, a change request comprising topology
10 | change data for at least one of said network entities;

11 | means for verifying validity of a user request with respect to each EMS
12 | against a set of rules and limitations associated with said respective EMS before
13 | sending the user request to each EMS; and

14 | means for changing said EMS topology map according to said topology change
15 | data;

16 | automatically propagating said topological change data from said EMS to
17 | said NMS; and

18 | preventing an administrator from making any topological changes to an
19 | added network entity.

1 | 23. (Original) The EMS of claim 22, further comprising

2 | a user interface for enabling said EMS to receive a user request comprising
3 | said topology change data pertaining to a specified network entity in said subset of
4 | network entities.

1 24. (Original) The EMS of claim 23, further comprising
2 means for automatically sending said user request to NMS.

1 25. (Original) The EMS of claim 23, further comprising
2 means for disabling any subsequent user requests involving said topology
3 change data from said EMS, for enabling user request pertinent to said network
4 entity from one localized place.

1 26. (Original) The EMS of claim 22, further comprising
2 means for cyclically checking the state of said EMS, storing said change
3 request whenever said EMS is temporarily in an `off state`, and providing said
4 change request to said EMS when said EMS is back in an `on state`.

1 27. (Currently Amended) In a communication network provided with a Network
2 Management System (NMS) maintaining a network topology map and managing a
3 plurality of Element Management Systems (EMS), each said EMS managing a
4 plurality of network entities and maintaining a respective EMS topology map, a
5 method of resynchronizing said EMS topology map with said network topology map,
6 comprising the following steps:

7 receiving, at said NMS, a user request for a resynchronization of said
8 network topology map with said EMS topology map;

9 verifying validity of said user request with respect to each EMS against a set
10 of rules and limitations associated with said respective EMS; ~~and, and~~

11 after said user request has been validated:

12 automatically sending, from said NMS to each said EMS ~~of said EMS's~~
13 affected by said request, updating topology data relevant to at least one of said
14 network entities managed by said affected EMS; and

15 updating each said EMS topology map of each said affected EMS according to
16 said updating topology data;

17 automatically propagating said topological change data from said EMS to
18 said NMS; and

19 preventing an administrator from making any topological changes to an
20 added SAM.